

Appl. No. 10/695,527
Amdt. dated May 2, 2008
Reply to Office Action mailed May 21, 2007

Amendments to the Specification:

Please amend the specification as follows:

1. This addresses **Points 12 and 15C** of the 11/02/2007 Office Action:

[0042] Stent 10 of the present invention may be formed by any process capable of forming the desired stent pattern. In the preferred embodiment, stent 10 is formed by electroforming, as described in U.S. Pat. Nos. 6,019,784 and 6,274,294 and U.S. patent application Ser. No. 10/452,891 US Patent 6,904,658 B2, which are hereby incorporated by reference. In the electroforming process, the desired pattern is defined by a photoresist exposed on a sacrificial mandrel. The electroforming process essentially grows stent 10 from the sacrificial mandrel to any desired thickness, after which the mandrel is dissolved. Unlike many other fabrication processes, stents having thin walls can be produced easily by electroforming.

[0047] The resist-coated mandrel is typically fitted with a conductive extension or stem. The extension is passed through or fitted with a slip ring for electrical contact. The mandrel is supported vertically so that the stent images are below the surface of the gold electroplating bath. The electroplating bath contains a platinum anode. Electrical current from a pulse-plating power supply is passed through the plating cell with the negative lead connected to the slip ring contact that is connected to the mandrel. The positive lead is connected to the anode. The mandrel is rotated about its axis during the plating run to maintain uniform stent strut thickness. The stent electroforming continues for a predetermined number of amp-minutes necessary to obtain the desired stent strut thickness. A porous gold electroformed layer may be formed as described in U.S. patent application Ser. No. 10/452,891 US Patent 6,904,658 B2.

2. This addresses **Point 15A** of the 11/02/2007 Office Action:

[0033] Wall 16 of stent 10 is formed of a biocompatible material sufficiently ductile to accommodate pleating and unpleating without tearing. The biocompatible material is preferably

Appl. No. 10/695,527
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a biocompatible metal or plastic. The more ductile the material used to form wall 16, the thicker it may be. Preferably, wall 16 is comprised of pure gold. In such embodiment, wherein wall 16 is formed of a ductile material, wall 16 may have a thickness up to about 0.003 inches, preferably about 0.001 inches, for neurovascular and coronary stents. Stents formed of less ductile materials must be thinner to accommodate pleating and unpleating without tearing. The capability of stent 10 to contain a large percentage of solid area also allows for a thin wall 16 that provides radial strength equivalent to stents with much thicker walls. Thinner walled stents will take up less cross sectional area in the vessel, resulting in a bigger lumen. The thickness and material of wall 16 may be tailored to provide a stent optimized for a particular stent application. Exemplary thicknesses of stents for use with the pleated stent assembly of the present invention made from ductile electroformed gold include the following: AAA stents will be thicker than neurovascular stents. Generally, AAA stents would be about 0.003 inch thick and neurovascular stents would be about 0.0005 inch to 0.001 inch thick. Coronary stents would typically be about 0.001 inch thick. Of course, the thickness will vary based on the specific application.

3. Please note these changes address **Points 13 and 15B** of the OA of 11/02/2007:

[0040] Turning to FIG. 3, the pattern 26 is appropriate for stent 10 configured for the treatment of neurovascular aneurysms. The pattern 26 is designed to restrict radial expansion within body section 22 and to allow radial expansion in anchor sections 24a and b. The pattern 26 comprises longitudinal struts 28, which extend along the length of stent 10, and interconnected circumferential struts 30, which extend around the circumference of stent 10. Preferably longitudinal struts 28 contain one or more longitudinal loops 32 to allow longitudinal flexibility for delivery. Circumferential struts 30 in anchor sections 24a and b are radially expandable beyond original diameter D of stent 10. In a preferred embodiment, circumferential struts 30 in anchor section 24 contain at least one circumferential loop 34 to allow circumferential expansion.